

## TABLE OF CONTENTS

I. INTRODUCTION .....	I-1
A. OVERVIEW .....	I-2
1. Species Represented .....	I-2
2. Classification of Vernal Pools .....	I-7
3. Factors in the Development of Vernal Pools .....	I-8
4. Vernal Pool Communities .....	I-11
5. Major Threats to Vernal Pool Species .....	I-14
II. BIOLOGY OF COVERED SPECIES .....	II-1
A. <i>Castilleja campestris</i> ssp. <i>succulenta</i> (Fleshy Owl's-clover) .....	II-1
1. Description and Taxonomy .....	II-1
2. Historical and Current Distribution .....	II-3
3. Life History and Habitat .....	II-5
4. Reasons for Decline and Threats to Survival .....	II-7
5. Conservation Efforts .....	II-8
B. <i>Chamaesyce hooveri</i> (Hoover's Spurge) .....	II-10
1. Description and Taxonomy .....	II-10
2. Historical and Current Distribution .....	II-12
3. Life History and Habitat .....	II-14
4. Reasons for Decline and Threats to Survival .....	II-16
5. Conservation Efforts .....	II-17
C. <i>Eryngium constancei</i> (Loch Lomond Button-celery) .....	II-18
1. Description and Taxonomy .....	II-18
2. Historical and Current Distribution .....	II-19
3. Life History and Habitat .....	II-22
4. Reasons for Decline and Threats to Survival .....	II-24
5. Conservation Efforts .....	II-24
D. <i>Lasthenia conjugens</i> (Contra Costa Goldfields) .....	II-26
1. Description and Taxonomy .....	II-26
2. Historical and Current Distribution .....	II-26
3. Life History and Habitat .....	II-29
4. Reasons for Decline and Threats to Survival .....	II-31
5. Conservation Efforts .....	II-32
E. <i>Limnanthes floccosa</i> ssp. <i>californica</i> (Butte County Meadowfoam) .....	II-34
1. Description and Taxonomy .....	II-34
2. Historical and Current Distribution .....	II-35
3. Life History and Habitat .....	II-37
4. Reasons for Decline and Threats to Survival .....	II-42
5. Conservation Efforts .....	II-43
F. <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (Few-flowered Navarretia) .....	II-44
1. Description and Taxonomy .....	II-44
2. Historical and Current Distribution .....	II-47
3. Life History and Habitat .....	II-48
4. Reasons for Decline and Threats to Survival .....	II-49

5. Conservation Efforts .....	II-49
G. <i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	
(Many-flowered Navarretia) .....	II-50
1. Description and Taxonomy .....	II-50
3. Life History and Habitat .....	II-53
4. Reasons for Decline and Threats to Survival .....	II-55
5. Conservation Efforts .....	II-56
H. <i>Neostapfia colusana</i> (Colusa Grass) .....	II-56
1. Description and Taxonomy .....	II-56
2. Historical and Current Distribution .....	II-59
4. Reasons for Decline and Threats to Survival .....	II-63
5. Conservation Efforts .....	II-64
I. <i>Orcuttia inaequalis</i> (San Joaquin Valley Orcutt Grass) .....	II-65
1. Description and Taxonomy .....	II-65
2. Historical and Current Distribution .....	II-68
3. Life History and Habitat .....	II-70
4. Reasons for Decline and Threats to Survival .....	II-72
5. Conservation Efforts .....	II-73
J. <i>Orcuttia pilosa</i> (Hairy Orcutt Grass) .....	II-74
1. Description and Taxonomy .....	II-74
2. Historical and Current Distribution .....	II-76
3. Life History and Habitat .....	II-78
4. Reasons for Decline and Threats to Survival .....	II-80
5. Conservation Efforts .....	II-81
K. <i>Orcuttia tenuis</i> (Slender Orcutt Grass) .....	II-82
1. Description and Taxonomy .....	II-82
2. Historical and Current Distribution .....	II-82
3. Life History and Habitat .....	II-85
4. Reasons for Decline and Threats to Survival .....	II-88
5. Conservation Efforts .....	II-89
L. <i>Orcuttia viscosa</i> (Sacramento Orcutt Grass) .....	II-91
1. Description and Taxonomy .....	II-91
3. Life History and Habitat .....	II-93
4. Reasons for Decline and Threats to Survival .....	II-96
5. Conservation Efforts .....	II-96
M. <i>Parvisedum leiocarpum</i> (Lake County Stonecrop) .....	II-97
1. Description and Taxonomy .....	II-97
2. Historical and Current Distribution .....	II-100
3. Life History and Habitat .....	II-100
4. Reasons for Decline and Threats to Survival .....	II-101
5. Conservation Efforts .....	II-102
N. <i>Tuctoria greenei</i> (Greene's Tuctoria) .....	II-102
1. Description and Taxonomy .....	II-102
2. Historical and Current Distribution .....	II-105
3. Life History and Habitat .....	II-105
4. Reasons for Decline and Threats to Survival .....	II-109
5. Conservation Efforts .....	II-110
O. <i>Tuctoria mucronata</i> (Solano Grass) .....	II-110
1. Description and Taxonomy .....	II-110
2. Historical and Current Distribution .....	II-111
3. Life History and Habitat .....	II-114
4. Reasons for Decline and Threats to Survival .....	II-115

5. Conservation Efforts .....	II-116
P. State-Listed and Other Plant Species of Concern .....	II-116
1. <i>Astragalus tener</i> var. <i>ferrisiae</i> (Ferris' Milk-vetch) .....	II-116
2. <i>Astragalus tener</i> var. <i>tener</i> (Alkali Milk-vetch) .....	II-121
3. <i>Atriplex persistens</i> (Vernal Pool Smallscale) .....	II-128
4. <i>Eryngium spinosepalum</i> (Spiny-sepaled Button-celery) .....	II-134
5. <i>Gratiola heterosepala</i> (Boggs Lake Hedge-hyssop) .....	II-139
6. <i>Juncus leiospermus</i> var. <i>ahartii</i> (Ahart's Dwarf Rush) .....	II-147
7. <i>Legenere limosa</i> (Legenere) .....	II-151
8. <i>Myosurus minimus</i> ssp. <i>apus</i> (Little Mousetail) .....	II-156
9. <i>Navarretia myersii</i> ssp. <i>deminuta</i> (Small Pincushion Navarretia) .....	II-164
10. <i>Plagiobothrys hystriculus</i> (Bearded Popcorn Flower) .....	II-167
Q. Delta Green Ground Beetle ( <i>Elaphrus viridis</i> ) .....	II-170
1. Taxonomy, Description and Identification .....	II-170
2. Historical and Current Distribution .....	II-171
3. Life History and Habitat .....	II-173
4. Reasons for Decline and Threats to Survival .....	II-179
5. Conservation Efforts .....	II-182
R. Conservancy Fairy Shrimp ( <i>Branchinecta conservatio</i> ) .....	II-185
1. Taxonomy, Description, and Identification .....	II-185
2. Historical and Current Distribution .....	II-187
3. Life History and Habitat .....	II-188
4. Reasons for Decline and Threats to Survival .....	II-190
5. Conservation Efforts .....	II-190
S. Longhorn Fairy Shrimp ( <i>Branchinecta longiantenna</i> ) .....	II-191
1. Taxonomy, Description, and Identification .....	II-191
2. Historical and Current Distribution .....	II-192
3. Life History and Habitat .....	II-192
4. Reasons for Decline and Threats to Survival .....	II-194
5. Conservation Efforts .....	II-195
T. Vernal Pool Fairy Shrimp ( <i>Branchinecta lynchi</i> ) .....	II-195
1. Taxonomy, Description, and Identification .....	II-195
2. Historical and Current Distribution .....	II-196
3. Life History and Habitat .....	II-199
4. Reasons for Decline and Threats to Survival .....	II-202
5. Conservation Efforts .....	II-205
U. Vernal Pool Tadpole Shrimp ( <i>Lepidurus packardi</i> ) .....	II-207
1. Taxonomy, Description, and Identification .....	II-207
2. Historic and Current Distribution .....	II-209
3. Life History and Habitat .....	II-211
4. Reasons for Decline and Threats to Survival .....	II-213
5. Conservation Efforts .....	II-214
V. Animal Species of Concern .....	II-214
1. Midvalley Fairy Shrimp ( <i>Branchinecta mesovallensis</i> ) .....	II-214
2. California Fairy Shrimp ( <i>Linderiella occidentalis</i> ) .....	II-219
3. Western Spadefoot Toad ( <i>Spea hammondii</i> ) .....	II-225
III. RECOVERY .....	III-1
A. GOALS .....	III-1
B. OBJECTIVES .....	III-2

C. STRATEGY .....	III-3
1. Individual Elements of the Recovery Strategy .....	III-4
a. Habitat Protection .....	III-4
b. Adaptive Habitat Management, Restoration, and Monitoring .....	III-5
c. Status Surveys .....	III-8
d. Research .....	III-9
e. Participation and Outreach .....	III-9
2. Species-specific Recovery and Conservation Strategies .	III-11
a. Plants .....	III-11
b. Delta Green Ground Beetle .....	III-12
c. Vernal Pool Fairy Shrimp .....	III-13
d. Western Spadefoot Toad .....	III-13
D. VERNAL POOL REGIONS .....	III-15
1. Carrizo Vernal Pool Region .....	III-75
2. Central Coast Vernal Pool Region .....	III-75
3. Klamath Mountains Vernal Pool Region .....	III-76
4. Lake-Napa Vernal Pool Region .....	III-76
5. Livermore Vernal Pool Region .....	III-77
6. Mendocino Vernal Pool Region .....	III-77
7. Modoc Plateau Vernal Pool Region .....	III-78
8. Northeastern Sacramento Valley Vernal Pool Region ..	III-78
9. Northwestern Sacramento Valley Vernal Pool Region ..	III-79
10. San Joaquin Valley Vernal Pool Region .....	III-80
11. Santa Barbara Vernal Pool Region .....	III-80
12. Solano-Colusa Vernal Pool Region .....	III-81
13. Southeastern Sacramento Valley Vernal Pool Region ..	III-81
14. Southern Sierra Foothills Vernal Pool Region ..	III-82
15. Western Riverside County Vernal Pool Region .....	III-83
16. San Diego Vernal Pool Region .....	III-83
E. RECOVERY CRITERIA .....	III-84
1. Strategies for Accommodating and Addressing Uncertainties in Preliminary Recovery Criteria .....	III-85
a. Habitat Protection .....	III-85
b. Adaptive Habitat Management, Restoration, and Monitoring .....	III-87
c. Status Surveys .....	III-88
d. Research .....	III-88
e. Participation and Outreach .....	III-89
2. General Recovery Criteria .....	III-89
3. Rationale for Species-specific Recovery Criteria .....	III-111
IV. STEPDOWN NARRATIVE .....	IV-1
V. IMPLEMENTATION SCHEDULE .....	V-1
VI. REFERENCES .....	VI-1
A. Literature Cited .....	VI-1
B. Personal Communications .....	VI-38
C. <i>In Litt.</i> References .....	VI-40
VII. APPENDICES .....	A-1

A. List of Scientific and Common Names of Plants and Animals . . . . .	A-1
B. Glossary of Technical Terms . . . . .	B-1
C. Recovery Priority and Federal Register Notice Reference and Dates .....	C-1
D. Priorities for Recovery of Threatened and Endangered Species ..	D-1
E. Potential Contaminants Associated with Western Spadefoot Toad Habitat .....	E-1
F. Conservation Tools and Strategies .....	F-1
G. Information and Education Materials .....	G-1

## LIST OF TABLES

Table I-1. Species addressed in the Vernal Pool Ecosystem Draft Recovery Plan .....	I-3
Table II-1. Western spadefoot toad count occurrence information .....	II-230
Table III-1. Species specific recovery criteria for species occurrence and habitat protection, reintroduction, and seed banking. ....	III-90
Table IV-1. Areas for vernal pool site assessments .....	IV-3
Table IV-2. Core areas for recovery of vernal pool plants and animals . . .	IV-5
Table IV-3. Vernal pool plants that require seed collection and storage .	IV-38
Table IV-4. Vernal pool shrimp that require cyst collection and storage..	IV-40
Table IV-5. Plant species for which reintroductions should be planned and implemented. ....	IV-42
Table IV-6. Plant species for which introductions should be planned and implemented .....	IV-43
Table IV-7. Life history types of vernal pool plants .....	IV-53
Table IV-8. Potential landowner agreements on conservancy land .. .	IV-65
Table IV-9. Potential landowner/land manager agreements on public land ..	IV-66

## LIST OF FIGURES

Figure I-1.	Map of draft recovery plan area showing the vernal pool regions .....	I-9
Figure II-1.	Illustration of <i>Castilleja campestris</i> ssp. <i>succulenta</i> (fleshy owl's clover) .....	II-2
Figure II-2.	Distribution of <i>Castilleja campestris</i> ssp. <i>succulenta</i> (fleshy owl's clover) .....	II-4
Figure II-3.	Illustration of <i>Chamaesyce hooveri</i> (Hoover's spurge) .....	II-11
Figure II-4.	Distribution of <i>Chamaesyce hooveri</i> (Hoover's spurge) .....	II-13
Figure II-5.	Illustration of <i>Eryngium constancei</i> (Loch Lomond button-celery) .....	II-20
Figure II-6.	Distribution of <i>Parvisedum leiocarpum</i> (Lake County stonecrop), <i>Eryngium constancei</i> (Loch Lomond button-celery), <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (few-flowered navarretia), <i>Navarretia leucocephala</i> ssp. <i>plieantha</i> (many-flowered navarretia), and <i>Navarretia myersii</i> ssp. <i>deminuta</i> (pincushion navarretia) .....	II-21
Figure II-7.	Photograph of <i>Lasthenia conjugens</i> (Contra Costa goldfields) .....	II-27
Figure II-8.	Distribution of <i>Lasthenia conjugens</i> (Contra Costa goldfields) .....	II-28
Figure II-9.	Distribution of <i>Limnanthes floccosa</i> ssp. <i>californica</i> (Butte County meadowfoam) .....	II-36
Figure II-10.	Illustration of <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (few-flowered navarretia) .....	II-46
Figure II-11.	Illustration of <i>Navarretia leucocephala</i> ssp. <i>plieantha</i> (many-flowered navarretia) .....	II-52
Figure II-12.	Illustration of <i>Neostapfia colusana</i> (Colusa grass) .....	II-58
Figure II-13.	Distribution of <i>Neostapfia colusana</i> (Colusa grass) .....	II-60
Figure II-14.	Illustration of <i>Orcuttia inaequalis</i> (San Joaquin Valley Orcutt grass) .....	II-67
Figure II-15.	Distribution of <i>Orcuttia inaequalis</i> (San Joaquin Valley Orcutt grass) .....	II-69
Figure II-16.	Illustration of <i>Orcuttia pilosa</i> (hairy Orcutt grass) .....	II-75
Figure II-17.	Distribution of <i>Orcuttia pilosa</i> (hairy Orcutt grass) .....	II-77
Figure II-18.	Illustration of <i>Orcuttia tenuis</i> (slender Orcutt grass) .....	II-83
Figure II-19.	Distribution of <i>Orcuttia tenuis</i> (slender Orcutt grass) .....	II-84
Figure II-20.	Illustration of <i>Orcuttia viscida</i> (Sacramento Orcutt grass) .....	II-92
Figure II-21.	Distribution of <i>Orcuttia viscida</i> (Sacramento Orcutt grass) .....	II-94
Figure II-22.	Illustration of <i>Parvisedum leiocarpum</i> (Lake County stonecrop) .....	II-99
Figure II-23.	Illustration of <i>Tuctoria greenei</i> (Greene's tuctoria) .....	II-104
Figure II-24.	Distribution of <i>Tuctoria greenei</i> (Greene's tuctoria) .....	II-106
Figure II-25.	Illustration of <i>Tuctoria mucronata</i> (Solano grass) .....	II-112
Figure II-26.	Distribution of <i>Tuctoria mucronata</i> (Solano grass) and historical distribution of <i>Plagiobothrys hystericulus</i> (bearded popcorn flower) .....	II-113
Figure II-27.	Distribution of <i>Astragalus tener</i> var. <i>ferrisiae</i> (Ferris' milk-vetch) .....	II-119
Figure II-28.	Illustration of <i>Astragalus tener</i> var. <i>tener</i> (alkali milk-vetch) .....	II-123
Figure II-29.	Distribution of <i>Astragalus tener</i> var. <i>tener</i> (alkali milk-vetch) .....	II-124

Figure II-30.	Illustration of <i>Atriplex persistens</i> (vernal pool smallscale)	II-130
Figure II-31.	Distribution of <i>Atriplex persistens</i> (vernal pool smallscale)	II-131
Figure II-32.	Distribution of <i>Eryngium spinosepalum</i> (spiny-sepaled button-celery) .....	II-136
Figure II-33.	Illustration of <i>Gratiola heterosepala</i> (Boggs Lake hedge-hyssop)	II-140
Figure II-34.	Distribution of <i>Gratiola heterosepala</i> (Boggs Lake hedge-hyssop)	II-142
Figure II-35.	Distribution of <i>Juncus leiospermus</i> var. <i>ahartii</i> (Ahart's dwarf rush) .....	II-149
Figure II-36.	Distribution of <i>Legenere limosa</i> (legenere) .....	II-153
Figure II-37.	Illustration of <i>Myosurus minimus</i> ssp. <i>apus</i> (little mousetail) .....	II-158
Figure II-38.	Distribution of <i>Myosurus minimus</i> ssp. <i>apus</i> (little mousetail) .....	II-159
Figure II-39.	Illustration of <i>Navarretia myersii</i> ssp. <i>deminuta</i> (small pincushion navarretia) .....	II-165
Figure II-40.	Photograph of delta green ground beetle ( <i>Elaphrus viridis</i> )	II-172
Figure II-41.	Distribution of delta green ground beetle ( <i>Elaphrus viridis</i> )	II-174
Figure II-42.	Distribution of Conservancy fairy shrimp ( <i>Branchinecta conservatio</i> ) .....	II-189
Figure II-43.	Distribution of longhorn fairy shrimp ( <i>Branchinecta longiantenna</i> ) .....	II-193
Figure II-44.	Distribution of vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> ) .....	II-197
Figure II-45.	Distribution of vernal pool tadpole shrimp ( <i>Lepidurus packardi</i> ) .....	II-210
Figure II-46.	Distribution of midvalley fairy shrimp ( <i>Branchinecta mesovallensis</i> ) .....	II-216
Figure II-47.	Distribution of California fairy shrimp ( <i>Linderiella occidentalis</i> ) .....	II-222
Figure II-48.	Photograph of western spadefoot toad ( <i>Spea hammondii</i> ) .	II-227
Figure II-49.	Distribution of western spadefoot toad ( <i>Spea hammondii</i> )	II-229
Figure III-1.	Conceptual model for recovery of vernal pool ecosystem ..	III-17
Figure III-2.	Carrizo Vernal Pool Region .....	III-19
Figure III-2a.	Central Coastal Ranges core area within the Carrizo Vernal Pool Region. ....	III-20
Figure III-2b.	Paso Robles core area within the Carrizo Vernal Pool Region .....	III-21
Figure III-2c.	Carrizo Plain core area within the Carrizo Vernal Pool Region .....	III-22
Figure III-3.	Central Coast Vernal Pool Region .....	III-23
Figure III-3a.	Coal Mine Ridge and S.E. San Francisco Bay core areas within the Central Coast Vernal Pool Region .....	III-24
Figure III-3b.	Fort Ord core area within the Central Coast Vernal Pool Region .....	III-25
Figure III-3c.	San Benito core area within the Central Coast Vernal Pool Region .....	III-26
Figure III-3d.	Fort Hunter-Liggett core area within the Central Coast Vernal Pool Region .....	III-27
Figure III-4.	Klamath Mountains Vernal Pool Region .....	III-28

Figure III-4a.	Agate Desert, Table Rocks, and White City core areas within the Klamath Mountains Vernal Pool Region .....	III-29
Figure III-5.	Lake-Napa Vernal Pool Region .....	III-30
Figure III-5a.	Boggs Lake-Clear Lake, Jordan Park, Dry Lake, and Long Valley core areas within the Lake-Napa Vernal Pool Region .....	III-31
Figure III-5b.	Diamond Mountain core area within the Lake-Napa Vernal Pool Region .....	III-32
Figure III-5c.	Berryessa and Napa River core areas within the Lake-Napa Vernal Pool Region .....	III-33
Figure III-6.	Livermore Vernal Pool Region .....	III-34
Figure III-6a.	Altamont Hills core areas within the Livermore Vernal Pool Region .....	III-35
Figure III-7.	Manchester core area within the Mendocino Vernal Pool Region .....	III-36
Figure III-8.	Modoc Plateau Vernal Pool Region .....	III-37
Figure III-8a.	Northern Modoc Plateau core areas within the Modoc Plateau Vernal Pool Region .....	III-38
Figure III-8b.	Western Modoc Plateau core areas within the Modoc Plateau Vernal Pool Region .....	III-39
Figure III-8c.	Southwestern Modoc Plateau core areas within the Modoc Plateau Vernal Pool Region .....	III-40
Figure III-8d.	Southern Modoc Plateau core area within the Modoc Plateau Vernal Pool Region .....	III-41
Figure III-9.	Northeastern Sacramento Valley Vernal Pool Region .....	III-42
Figure III-9a.	Dales core area within the Northeastern Sacramento Valley Vernal Pool Region .....	III-43
Figure III-9b.	Vina Plains and Chico core areas within the Northeastern Sacramento Valley Vernal Pool Region .....	III-44
Figure III-9c.	Doe Mill, Oroville, Richvale, and Palermo core areas within the Northeastern Sacramento Valley Vernal Pool Region .....	III-45
Figure III-9d.	Honcut core areas within the Northeastern Sacramento Valley Vernal Pool Region .....	III-46
Figure III-9e.	Llano Seco and Upper Butte Basin core areas within the Northeastern Sacramento Valley Vernal Pool Region .....	III-47
Figure III-10.	Northwestern Sacramento Valley Vernal Pool Region .....	III-48
Figure III-10a.	Redding and Millville Plains core areas within the Northwestern Sacramento Valley Vernal Pool Region .....	III-49
Figure III-10b.	Red Bluff core area within the Northwestern Sacramento Valley Vernal Pool Region .....	III-50
Figure III-10c.	Black Butte and Orland core areas within the Northwestern Sacramento Valley Vernal Pool Region .....	III-51
Figure III-11.	San Joaquin Valley Vernal Pool Region .....	III-52
Figure III-11a.	Caswell core area within the San Joaquin Valley Vernal Pool Region .....	III-53
Figure III-11b.	Grassland Ecological Area core area within the San Joaquin Valley Vernal Pool Region .....	III-54
Figure III-11c.	Cross Creek and Pixley core areas within the San Joaquin Valley Vernal Pool Region .....	III-55
Figure III-12.	Santa Barbara Vernal Pool Region .....	III-56
Figure III-12a.	Lake Cachuma and Ventura County core areas within the Santa Barbara Vernal Pool Region .....	III-57
Figure III-13.	Solano-Colusa Vernal Pool Region .....	III-58

Figure III-13a. Sacramento National Wildlife Refuge and Dolan core areas within the Solano-Colusa Vernal Pool Region .....	III-59
Figure III-13b. Woodland and Davis Communications Annex core areas within the Solano Colusa Vernal Pool Region .....	III-60
Figure III-13c. Vacaville, Jepson Prairie, Suisun Marsh, Collinsville, and Montezuma Hills core areas within the Solano-Colusa Vernal Pool Region .....	III-61
Figure III-13d. Rodeo Creek core area within the Solano-Colusa Vernal Pool Region .....	III-62
Figure III-14. Southeastern Sacramento Valley Vernal Pool Region .....	III-63
Figure III-14a Beale and Western Placer County core areas within the Southeastern Sacramento Valley Vernal Pool Region .....	III-64
Figure III-14b. Phoenix Field Park, Mather, Stone Lake, Cosumnes/Rancho Seco, S.E. Sacramento Valley, and Jenny Lind core areas within the Southeastern Sacramento Valley Vernal Pool Region. ....	III-65
Figure III-15. Southern Sierra Foothills Vernal Pool Region .....	III-66
Figure III-15a. San Joaquin, Shotgun Creek, Farmington, Waterford, Turlock, and Merced core areas within the Southern Sierra Foothills Vernal Pool Region .....	III-67
Figure III-15b. Madera core area within the Southern Sierra Foothills Vernal Pool Region .....	III-68
Figure III-15c. Table Mountain, Fresno, and Kings core areas within the Southern Sierra Foothills Vernal Pool Region .....	III-69
Figure III-15d. Cottonwood Creek, Tulare, Kaweah, Yokohi and Lake Success core areas within the Southern Sierra Foothills Vernal Pool Region .....	III-70
Figure III-16. Western Riverside County Vernal Pool Region .....	III-71
Figure III-16a. Harford Spring, Santa Rosa Plateau, Skunk Hollow, and San Jacinto-Hemet core areas within the Western Riverside County Vernal Pool Region .....	III-72
Figure III-17. San Diego Vernal Pool Region .....	III-73
Figure III-17a. Otay Mesa, Ramona, and Tierrasanta core areas within the San Diego Vernal Pool Region. ....	III-74